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PSYCHOLOGY AND SCIENTIFIC METHODS

LOGIC AS THE SCIENCE OF THE PURE CONCEPT

OUT of Italy, after the lapse of nearly two centuries, has come another great system of philosophy. The tradition founded by Leonardo, that grew so wonderfully down to the time of Vico's *Scienza Nuova* (1722), has not been dormant since; and nearly every page of the *Logic*¹ of Benedetto Croce attests the fact. His system as a whole is the most courageous and commanding attempt that has yet been made to systematize the values that make up man's world (and he does not honor the distinction between judgments of fact and judgments of value).

Although, in expressing his thought, he constantly uses Kantian and Hegelian terms, and even credits the discovery of the central conceptions of his *Logic* to these two German idealists, an impartial comparison reveals that the new doctrine is far less Prussian than Italian, far less Teutonic than Hellenic. Kant and Hegel have few critics who are at once so appreciative and so deadly: they have had few followers who knew how to both prize and appraise the logical *a priori* synthesis and the Idea as does this interpreter of them. Croce himself regards G. B. Vico as his immediate predecessor in teaching the main thesis of this logic, the thesis that the pure concept, the definition of the pure concept, the individual judgment, the logical *a priori* synthesis, and perception, are one and the same thing, that philosophy and history are identical, and that there exists neither *Ding an sich* nor transcendental ego. Writing of the Kantian *a priori* synthesis, he says: "This synthesis is the unity of the necessary and the contingent, of concept and intuition, of thought and representation, and consequently is the pure concept, the *concrete universal*;" and then he adds, "Kant was not aware of

¹ *Logic as the Science of the Pure Concept*. By Benedetto Croce. Translated from the third Italian edition by Douglas Ainslie, B.A. (Oxon), M.R.A.S. Macmillan & Co., Ltd., London, 1917. Pp. xxxiii + 606. The first edition appeared in 1908, after the author's general position had already been defined before the Academia Pontiana in 1904 and published in the *Transactions*, Vol. XXXV., 1905.

this." Instead of developing the thought of his genius with a mind free from prejudice, Kant let himself be vanquished by the abstractionism of the time. In this way, the apriority of the intuition led him, not to art, but to mathematics; the apriority of the intellect led him, not to philosophy, but to physics; "hence the impotence which afflicted that synthesis when confronted with philosophical problems" (536). Again, "The logical revolution effected by Kant consists in this: that he perceives and proclaims that to know is not to think the concept abstractly, but to think the concept in the intuition, and that consequently to think is to *judge*" (570). And then, for a brilliant page, Croce goes on to point out the inept misunderstandings of the *a priori* synthesis to be found in the pages of Kant. "Not even in Hegel is there to be found the elaboration of the doctrine of the individual judgment, nor is its identity with that of the concept explicitly recognized" (572). One almost forgives the author's sentimental admiration for these Germans, in view of his own masterly handling of them. "The synthesis is the palpitating reality which makes itself and knows itself in the making: the Kantian philosophy makes it rigid again in the concepts of the sciences; and it is a philosophy in which the sense of life, of imagination, of individuality and of history, is as completely absent as in the great systems of the Cartesian period" (536).

Meanwhile, Croce's *Esthetics*, his *Philosophy of the Practical* (Economics and Ethics), and the present work, taken together, complete the circle of man's spiritual activity; they set forth a realistic methodology of life, and so of the universe in which it is lived. A more noteworthy synthesis has not been attained by the present generation: the total result is monumental.

Our author refers to his own philosophy as a system, but it is a system only in the sense of a systematic methodology, or real logic. In a sense he is a critical philosopher, but his conception of knowledge resembles Leonardo's celebration of the seeing eye, the intuitive science of Spinoza, the rational perception of Campanella and the intellectual intuition of Rosmini. In Italy these terms have always had meanings quite different from the same terms in Germany, where the prevailing tendency is to take them stiffly and abstractly after the analogy of physical energies and mathematical concepts. One feels that Croce's generous praise of the Germans, while criticizing their usage of these terms, will go a long way toward realizing the translator's hope, that this book may "serve to point out to the Anglo-Saxon world where the future of the world's civilization lies, namely, in the ancient line of Latin culture, which includes in itself the loftiest Hellenic thought" (vii). Outside that "line" the

conception of knowledge that runs through this book, in spite of its Kantian phrases, is reminiscent chiefly of Spinoza.

It is already clear that this work is not a contribution to formalist logic or logistic, except as a confutation of the fundamental pre-suppositions and methods of a body of doctrine can be said to be a contribution to it. In the days of Leibnitz and those of Wolffianism; a century ago in the time of Hamilton; more recently, in connection with the name of Jevons; and now in the writings of Peano, Boole and Couturat, attempts are made to reform and correct formalist logic by inducting into it mathematical concepts and symbols: but these attempts all follow in the mistake of formalist logic in pretending that words are thoughts, that verbal propositions are concepts, and that logical relations run on all fours with those of grammar. This algebraical, algorithmic or symbolic logic is hailed in some quarters as a general science of thought, comprehending both the mathematics and logic. As a general science of thought, says Croce, "it is a laughable thing," "a charming amusement for those who have a taste for it." He pauses to sketch the simple outlines of the doctrine of the syllogism and of logistic; but they obviously lie to one side of the trail over which he conducts the reader: presently he turns away, as a tourist might lower his field-glass, with a sigh of well-meaning patience, "Well, if they be roses, they will bloom." They sprang from Aristotle's writings, but "he was a philosopher, and his successors were very often manual laborers" (586). The indispensable condition for surpassing the Aristotelian logic was a new philosophy of language, but the early reformers for the most part still revolved in the narrow circle of formalism. The revival of the philosophy of language begun by Vico and carried on by Hamann, by Herder and by Humboldt was unknown to Hegel, or had no influence on him. For this reason formalist logic has continued to exist (with difficulty) until to-day.

Croce represents philosophy as a systematic account of the predicate of the individual judgment whose subject is the subject-matter of history. He posits the compound equation, "Philosophy = thought = history = perception of reality" (494). "The formula that we oppose to Hegel's formula of the identity of *philosophy and history of philosophy*, is that of the identity of *philosophy and history*" (487). Without doubt, an idealist; he is also a realist and is not incapable of discovering elements of truth in materialism and the economic view of history. "All philosophical systems (including materialism and skepticism) have, whether they admit it or not, displayed or implied the same principle, which is the pure concept, and every philosophy is idealism" (483). "Every philosophy, to

whatever results it may attain, and whatever be its errors, is in its essential character and deepest tendency, *idealism*'' (266). Absolute skepticism does not exist: it is in fact self-contradictory: and what does exist as the basis of science and philosophy is the concept. But Croce's idealism is not that of Plato or the modern transcendentalists: the reality he celebrates is rather that of perception, of the individual judgment: and his philosophy is not theistic in any medieval or transcendental sense. And yet, he is also an idealist in the sense of not being several other kinds of a philosopher, such as a materialist.

Where the term idealist is used as a synonym of philosophy, or as a synonym of thought, it is desirable to distinguish types of idealism wherever we wish to distinguish types of philosophy. But to place his system on a shelf with others of its kind is difficult: a product of Italian culture and an exposition of a great Italian tradition, it does not readily fall into the schemes of classification by which we usually pigeonhole philosophies. The *Logic* contains many pages that might be transcribed into pragmatist writings, but his insistence on the non-practical character of the pure concept would not be consistent with such a description of his system. A humanist viewing the world from the standpoint of man, his doctrine of the concept would no doubt be repudiated by Dr. Schiller. The world is for Croce just as various as any reflecting mind finds it to be: he is not a monist: and yet, one is sure the term pluralist does not adequately characterize him. Above all, he expounds a doctrine of the pure concept, but the formal and abstract definition of the pure concept by Kant does not in the least portray the vivid, pulsating thing that Croce has in mind.

In a way the name of Heraclitus is suggested by the argument unfolded in these pages, but it is Heraclitus *with* the Heraclitean Logos, and Heraclitus in a most modern dress. Croce aspires to write a "dynamic" rather than a "static" philosophy, a methodology rather than a metaphysic: he makes no attempt either to solve all problems or to furnish the basis upon which such solutions might be attained: he offers a vindication of the seriousness of logical thought, a vindication that would restore to philosophy its own riches, "the whole of history, both that known as history and that known as the history of nature." The practical convenience and indispensableness of the sciences are emphasized, but he views the sciences one and all as historic phenomena. No hypothesis can properly be called philosophical that is not thinkable as a pure concept or idea. Philosophy (not logic alone) is the doctrine of the categories: Logic is "a Category of the categories, a Philosophy of phi-

losophy." "The pure *a priori* synthesis, which is the reality of the individual judgment and of the definition, is also the reality of philosophy and of history" (324). Croce is an idealist of the Latin type, with his eyes focused, not on transcendental abstractions, but on life in its utter richness and inexhaustible variety. So far as the pure concept is concerned, he is also a realist; and he criticizes Kant for his intellectualism.

So far as the truths of science, industry, commerce and morality are concerned, the doctrine of Croce's *Logic* is in a way pragmatic and experimental; and the pure concept is the concept of these truths. The special task of empirical science is classification, and this is always dominated by practical motives. By resorting to convention, empirical science gives to representations of the singular the value of the concept.² In the mathematics, again by convention, the value of the single is given to abstract concepts. "Thus it (mathematics) divides spatiality into dimensions, individuality into numbers, movement into motion and rest, and so on. It also creates fictitious beings, which are neither representations nor concepts, but rather concepts treated as representation. It is a devastation, a mutilation, a scourge, penetrating into the theoretical world, in which it has no part, being altogether innocuous, because it affirms nothing of reality and acts as a simple practical artifice. The general purpose of this artifice is known; it is to aid memory. . . . They serve to supply the abstract concepts, which make possible the judgment of enumeration,"—and the latter is a false *a priori* synthesis.

Mathematics is sometimes represented as the *appendix magna* to the natural sciences; but the two together constitute an *appendix magna* or an *index locupletissimus* to history, "which is full knowledge of the real." History is the foundation of natural sciences, and the scientific treatment of history does not possess theoretic value. The whole content of truth of the natural sciences is history (351).

A syllabus of this theory of knowledge is as follows: "There are two pure theoretic forms, the intuition and the concept, the second of which is subdivided into judgment of definition and individual judgment, and there are two modes of practical elaboration of knowledge, or of formation of pseudo-concepts, the empirical concept and the abstract concept, from which are derived the two subforms of

² "That constancy and uniformity, which is postulated and falsely believed to be objective reality, is the same practical necessity which leads to the neglect of differences and to the looking upon the different as uniform, the changeable as constant. . . . *Natura non facit saltus* means: *mens non facit saltus in naturæ cognitione*, or, better still, *memoriæ usus saltus naturæ cohibet*" (338 ff.).

judgment of *classification* and of judgment of *enumeration*'' (247). The elaboration of this syllabus, the first part of the book, is full of meaning. Intuition (or sensation) is a cognitive act, an unreflective synthesis of representation and expression. The usual designation of sensation is either "representation" or "intuition." The concept is neither a representation, nor a mixture nor a refinement of sensations; but it arises out of sensations as something implicit that must become explicit.

But concepts are of two kinds, either pure theoretic forms or "practical" elaborations; and this difference is indicated by the terms pure concept and pseudo-concepts (or fictional concepts). The last expression, I take it, is used in its etymological sense, meaning constructed: as Croce uses it, it does not mean either false or valueless. Pseudo-concepts are subdivided into empirical concepts (such as tree, oxygen), and abstract concepts (such as law, circle, free motion); but pure concepts are of one kind, such as good, true, useful, and beautiful. Croce refuses to make a list of pure concepts; but they are all ultra-representative and omni-representative, while pseudo-concepts are neither. That is to say, all pure concepts are present in each and every object of reflection, and pure concepts represent far more than any or all actual objects; while pseudo-concepts are present only in such objects as, for practical purposes, they are allowed to represent. Pseudo-concepts presuppose pure concepts: they are the work of the practical spirit: they are "practically," not theoretically, rational: and their purpose is mnemonic, convenient, or useful. They are not related to pure concepts by identity or contrariety: they are related to pure concepts merely by diversity.

Pure concepts, on the other hand, are expressible: they can be expounded: they are not mute acts of the spirit, such as practical acts are. They are both universal and concrete, concrete universality being their most important characteristic. The pure concept transcends the single representation, but it is immanent in all representations. Pseudo-concepts are either concrete, as in the case of the empirical variety, or universal, as in the case of the abstract variety: they never possess both characters at once. Croce is a realist, so far as pure concepts are concerned, and a nominalist so far as pseudo-concepts are concerned. The Platonic ideas were really pseudo-concepts. Intellect and reason differ as pseudo-concepts and pure concepts, truth being a function of reason, not of intellect. But reason is wrongly represented as a unifying faculty joining the theoretical and practical. The latter do not need joining: they are simply different functions of the spirit.

"The multiplicity of concepts can be referred only to the variety of the objects which are thought in the logical form of the concept," but Croce recognizes that you can not jettison distinction without rendering the concept unreal. "A unity is thinkable only in so far as it has distinctions within itself and is the unity of the distinctions;" and at this point Croce's doctrine gives rise to a serious question. If it is not pluralistic, neither is it monistic: the question is, Is there such a thing as mono-pluralism? Our philosopher's answer would doubtless be that numerical concepts are utterly inadequate to express the relation concerned. "The distinctions of the concept are not the negation of the concept, nor something outside the concept, but the concept itself understood in its truth. . . . Unity and distinction are correlative and inseparable" (77). "The Beautiful, the True, the Useful, the Good are not the first steps in a numerical series, nor do they permit themselves to be arranged at pleasure, so that we may place the beautiful after the true, or the good before the useful, or the useful before the true, and so on." They mutually imply one another and, hence, are not to be described as finite in number, because number is altogether incapable of expressing such a relation. Pancalism and panpracticism are alike impossible, from this point of view.

In the spectacle of life, the fact that comes after is certainly different from that which precedes, but is also the same. "This is called *history*; and therefore the relation of the concepts . . . can be called *ideal history*; and the logical theory of such ideal history has been regarded as the theory of the *degrees of the concept*, just as real history is conceived as a series of *degrees of civilization*." One degree of the concept is never found without the others in the smallest fragment of reality. The practical man does not exist beside the theoretical, the poet beside the philosopher: the work of art never stands separate from the labor of reflection. "The abstract distinction is unreal; and that of the concept is real; and the reality of the distinction . . . is precisely ideality, not abstraction." "In every fact there are all the determinations of the concept." Distinct concepts can be taken abstractly; but they then become pseudo-concepts, and the character belongs to the latter, not to the distinct concepts as such, which are always distinct and united. The symbol of the concept is not the bracket imposing unity upon terms that would otherwise be different, but the circle in which each point is both a beginning and an end; only spirit is the final end of spirit.

Opposite concepts ought not to be confused with distinct concepts, although they sometimes are. The practical and the non-practical are not distincts; they are not species of the practical; a

species can never be the negation of its genus. When opposite concepts as a class are distinguished from distinct concepts, they themselves become distincts; but if you treat any two opposite concepts as distincts, they vanish into each other. The Hegelian dialectic is simply this false and falsifying treatment of logically opposite concepts as distinct concepts. "He who meditates on the connections of affirmation-negation and unity-distinction has before him the problem of the nature of thought, and so of the nature of reality: and he ends by seeing that the two connections are not parallel nor disparate, but are in their turn unified in unity-distinction understood as effective reality, and not as simple abstract possibility, or desire, or mere ought to be" (99).

"The dialectic belongs to opposed categories (or, rather, it is the thinking of the one category of opposition), not at all to representative and abstract fictions, which are based either upon mere representation or nothing. As the result of that arbitrary form, we have seen vegetable opposed to mineral, society opposed to the family, or even Rome opposed to Greece, and Napoleon to Rome; or the superficies actually opposed to the line, time to space, and the number one to the number two" (102). This is an example of the error which Croce names philosophism. "Considered as real, the opposite can not be anything but the distinct; but the opposite is precisely the unreal in the real, and not a form or grade of reality" (103). The law of thought is not, A is A , which leads to a motionless and empty concept of being, nor, A is not- A , which destroys the criterion of distinction and is the false application of the dialectic principle; but, A is A , and, A is not- B , the principle of identity and contradiction. However, it is a very improper formula, a very equivocal one, says Croce, "because it allows it to be supposed that the law or principle is outside of, or above, thought, like a bridle and guide, whereas it is thought itself; and it has the further inconvenience of not placing in clear relief the unity of identity and distinction." All formulæ, all words, are exposed to misunderstandings. The application of opposition to the forms of the spirit would produce, not a circle, which is true infinity, but a *progressus ad infinitum*, which is false or bad infinity. The form of law given to the concept of the concept has led to this confusion; for it is an improper form, all saturated with empirical usage. The peculiar nature of the concept is more nearly expressed in the principle of sufficient reason; "but what else does seeking the sufficient reason of things mean but thinking them in their truth, conceiving them in their universality, and stating their concept." "The concept has the character of spirituality and not of mechanism, because reality is spiritual and not me-

chanical" (48). "The concept gives the essence of things, and in the concept *essence involves existence*" (116). That this proposition has been contested is due to a confusion between the essence that is existence, and therefore concept, and the existence that is not essence and therefore is representation. "If the concept of *virtue* is conceivable, virtue is; if the concept of *God* be conceivable, God is. To the most perfect concept the perfection of existence can not be wanting without being *itself* non-existent" (117).

Croce's interest in the reality behind the forms of language leads to the position that definition and syllogism are the same. "The connection of the concepts represents nothing new in relation to the thinking of the concept" (121). The middle term and the *ergo* are important only in so far as they express "the synthetic force of thought." The number three symbolizes the thinking of the singular concept in the universal through the particular, or the determining of the universal through the particular by making it a singular concept, whence it is certain that the relation of these three determinations is not numerical. It is a false abstraction to separate the reasons for truth from truth itself; except in the case of pseudo-concepts whose definitions are commands and not properly reasoned truths at all. Of pseudo-concepts infinite demonstrations are possible precisely because none are possible, because the definitions themselves are infinite. Any offer of demonstration in such cases is *pro forma*. Practical convenience, not logical cogency, determines such proofs, and the proof is usually a pretense. "The practical work of persuasion, proper to the commercial traveller, . . . and the merchant or manufacturer, . . . are not pertinent to Philosophy" (147).

The individual judgment has as its base a concept or definition, but it contains also a representative or individual element, which is transformed into logical fact, but does not lose individuality on that account. In the definitive judgment, the distinction between subject and predicate is purely grammatical or verbal: in the individual judgment, subject and predicate are different and distinct, the former being presentation and the latter conception. The analytic and synthetic judgments are nothing but the definitive and the individual judgments, respectively. "Intellectual intuition" is nothing but individual judgment, and a much more familiar name for individual judgment is perception, or perceptive judgment. "To perceive means to apprehend a given fact as having this or that nature: and so to think or judge it" (155). In perception or individual judgment, "the ultimate and most perfect form of cognitive facts," the circle of knowledge is completed. "The individual judgment,

or perception, is fully adequate to reality" (158). The error of treating it as the first form of knowledge leads to empiricism and rationalism, sensationalism and intellectualism, which are pseudo-concepts and give rise to pseudo-judgments. In the distinction between individual judgments and individual pseudo-judgments, between perceptions and pseudo-perceptions, Croce sees "perhaps the most profound" of all motives for the division of judgments into judgments of fact and judgments of value. Existentiality is a predicate in the individual judgment, but not in the definitive; but the predicate of existence does not suffice to constitute a categorical judgment.

The argument of the text goes on to distinguish between individual pseudo-judgments of the empirical and the abstract varieties, and empirical judgments are spoken of as judgments of classification. Sometimes we hastily form empirical judgments that take the place of pure individual judgments, whence arise certain controversies about the truth of perception, such as the straight stick bent in the pool, and the thing in itself. Abstract pseudo-concepts presuppose pure concepts, but not pure individual judgments: *i. e.*, it is not necessary to know individual things in order to form concepts of numerical series or geometrical figures: no representative element enters into them or is involved in their formation. The application of these abstract concepts is made possible by classification, which thus makes enumeration and measurement possible. Space and time in the mathematical sense are "thoughts of abstractions," not to be confounded with real thoughts or with genuine thoughts of reality. The Kantian conception of the ideality of time and space "is among the greatest discoveries of history and should be accepted by every philosophy worthy of the name" (197). However, the character of mathematical space and time is not ideality, but unreality, or abstract ideality. Empirical and abstract concepts can not be reduced to the pure concept. The book advocates the economic theory of the empirical and abstract sciences, thus excluding them from the sphere of logical thought, although their existence presupposes logical thought.

For the sake of the light it throws on Croce's method, permit me to add to this lengthy exposition of his *Logic* what we take to be the second most important feature of it, namely, his doctrine of error, again omitting for the present all comment. Error is usually defined negatively as a lack of consistency, a lack of conformity of thought to its object, the absence of convenience, and so forth. The negative or opposite of thought is thus error, while thought itself is truth. The mistake of conceiving error as the opposite of truth would be

evident if such definitions were maintained with thoroughgoing rigor; for it would then appear that as a form of spiritual activity, error does not exist.

On the other hand, we all know errors that are distinguishable from truth and thus exist for themselves. Croce holds that such error consists in the substitution of a practical act of the spirit for a theoretical act. One who commits error passes "from thought to deed; and his doing, in fact his thinking, is to open his mouth and emit sounds to which there corresponds no thought, or, what is the same thing, no thought which has value, precision, coherence and truth" (394). The practical act is rational enough (practically): it often obtains the material end, the applause, or whatever, at which it is aimed. It is often successful, far-sighted, and therefore rational; but it is not morally good. "Morality demands that man should think the true. Producers of error evade, or rather, do not elevate themselves to that duty." Error is thus an *improper combination* of ideas, as Vico said, and it is feasible to determine the number of types of improper combinations that the forms of cognitive activity admit.

Representation precedes the pure concept, while empirical and abstract pseudo-concepts follow it as their conditioning antecedent. Either representation or one of the pseudo-concepts may be taken for the pure concept, giving rise to either *estheticism*, *empiricism* or *mathematicism*. Again, the *a priori* synthesis of concept and representation in the individual judgment may be violently sundered and either element substituted for the whole, giving us as two further types of error *philosophism* and *historicism* (or *mythologism*), of which Hegel and Comte can, I suppose, be taken as illustrations. When attempts are made to preserve both the true form and the insufficient form or forms, the result is *dualism*, *skepticism* (or *agnosticism*), and finally *mysticism*. A new list of idols is added by the text, consisting of the tendencies of individuals and nations to carry over into philosophy their habitual thoughts and sentiments: these are named *professionalism* and *nationalism*.

This work further contains ingenious and suggestive sections on the phenomenology of error, and a historical sketch of the development of logical doctrine in general and of the doctrine of the logical *a priori* synthesis in particular. We have found them both, and the book as a whole, refreshing and scholarly. It is impossible for one who does not read Italian fluently to know to what extent the style of the book is due to the translator; but a poetic delicacy in the choice of words, in the structure of sentences and in the arrangement of materials does distinguish it, giving to a profound and

learned discussion the dignity and grace of great statuary and architecture. Croce is one of the most educated minds of the present time. He is so saturated with civilized life—indeed, his thought fairly drips with it—that no logic that is not real interests him. One lays the book down feeling as if he had been wandering in a diving-bell through the veins and arteries of humanity with the warm currents of its life pressing him on every side. One gathers from the text that the author is himself a sculptor, a traveller, a lover of poetry and painting, perhaps himself a poet, a sympathetic student of religions, and with it all, a man of the world. His humor is subtle and whole-hearted. He knows his own mind and speaks his thought right out, like one who both enjoys and trusts his pen. He has written a wonderful book, and it has been elegantly translated and printed.

G. A. TAWNEY.

UNIVERSITY OF CINCINNATI.

EXPERIMENTAL DETERMINISM AND HUMAN CONDUCT

IS a reasonable theory of human conduct possible on the basis of experimental determinism? Are conscience, responsibility, praise, blame, reward, punishment, compatible with complete determinism? What is the relation of experimental determinism to freedom?

The misgiving revealed in these questions I find to be the chief ground for hesitation in the complete acceptance of experimental determinism, even by men engaged in experiment; it is doubtless felt by all men who on other grounds would naturally assent to experimental determinism.¹ Does its acceptance involve a contradiction between one's theory and the necessary practise of daily life? If so, the theory is doubtless wrong.

What are the fundamental things that experimental determinism implies and what does it not imply? The writer has tried to answer these questions elsewhere;² here merely certain main points will be recapitulated.

Determinism holds that whenever there is a diversity between two events, this is preceded by other diversities so related to the later ones that if the preceding diversities are lacking, the later diversities do not occur. *Experimental* determinism holds that a given perceptual diversity between two events is always accompanied and pre-

¹ This difficulty has recently been strongly put by my colleague, S. O. Mast (*Science*, December 13, 1918).

² "Mechanism and Vitalism," *Philosophical Review*, November, 1918.